Simulation

PRODUCT OVERVIEW

Simulation - as close to being there as it gets. It's the life-like reproduction of a specific visual application. And it's crucial to represent the images realistically.

High display resolution for crisp, realistic images even with daytime simulations and high ambient light. High contrast ratio and low, uniform black level, for accurate depiction of night scene simulation. High product reliability for extensive, regular use with no downtime tolerance. Brightness and color uniformity for color matching across a single screen illuminated by multiple projectors, or a multi-screen image. Minimum latency – the real-time interaction between trainee and simulation imagery.

Christie – synonymous with simulation.

PROJECTION SOLUTIONS FOR:

- Civil aviation
- Military aviation
- Road driving
- Sea-based simulation
- Land-based simulation
- Air traffic control

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Simulation Product Overview

Christie's simulation solutions include purpose-built products designed to meet the specific requirements of the simulation market. As technologies change, the need for lower cost, commercial off-the-shelf simulation systems with higher resolution and higher brightness is prevalent. Christie's simulation solutions offer a full range of models featuring:

- High resolution
- SuperCR™ - high contrast and low black level
- Digital Color Management (DCM™)
- Custom Gamma Adjustment (CGA™)
- Minimum Processing Latency (MPL™)
- Lamp Power Management (LPM™)
- Color Select Filter (CSF™)
- Primary Color Adjust (PCA™)
- Seamless Image Mapping (SIM™)
- Light Output Control (LiteLOC™)
- Color Temperature Control (CTC™)

Matrix 1500

The Matrix 1500 is a purpose-built entry level single-chip DLP™ projector. Powerful and bright, users can work in daytime simulation environments, in full ambient light. Images onscreen are crisp, clean and highly detailed with Dark metal DMD™ panels for a true digital end-to-end solution. Night-mode scenery is accurately displayed with 1000:1 contrast ratio.

Quick to set up with virtual plug and play operation and a universal power supply that auto adjusts, the Matrix 1500 can connect to virtually every computer or video source. Compact and quiet, the Matrix 1500 can work in any simulation application – and 2000 hours typical lamp life provides reliability and a lower cost of operation. Christie's Matrix 1500 is the reality for simulation.

- Single-chip DLP™ SXGA 1500 lumen simulation projector
- Dark metal DMD™ light engine with a SuperCR™ 1000:1 contrast ratio on/off
- Low, uniform black levels for accurate reproduction of night scenes
- 3G vibration spec on all 3 axes for use on motion platforms
- Minimum processing latency (MPL™) ensuring realistic interaction between user and simulation

Matrix 2500

The Matrix 2500 is a purpose-built 3-chip 1.8" LCD SXGA simulation projector. Ideal for daytime simulation environments and high ambient light conditions, images onscreen are depicted with the precise clarity.

The Matrix 2500 can identically polarize all three RGB colors with optional CSF™. Two stacked Matrix 2500 units can be used with linear or circular polarization kits for passive stereo applications.

- 3-chip 1.8" p-Si AM TFT LCD SXGA 2500 lumen simulation projector
- Super CR™ contrast ratio of 700:1 on/off
- Low, uniform black levels for accurate reproduction of night scenes
- 3G vibration spec in all 3 axes for use on motion platforms
- Minimum Processing Latency (MPL™) ensuring realistic interaction between users and simulation

Matrix 3500

The Matrix 3500 is a purpose-built 3-chip 1.8" LCD UXGA high performance, high brightness simulation projector. The brightest in the series, the Matrix 3500 projects bright, vibrant images in daytime simulation environments and full ambient light. Images are phenomenally crisp, detailed, graphics. The Super CR™ 1000:1 full field contrast ratio ensures the realistic reproduction of night-mode simulation.

All three primary colors can be indentically polarized with optional CSF™. Two stacked Matrix 3500 units can be used either with linear or circular polarization kits for passive stereo applications.

- 3-chip 1.8" p-Si AM TFT LCD UXGA 3500 lumen simulation projector
- SuperCR™ high contrast ratio of 1000:1 on/off
- Low, uniform black levels for accurate reproduction of night scenes
- 3G vibration spec in all 3 axes for use on motion platforms
- Minimum Processing Latency (MPL™) ensuring realistic interaction between users and simulation

MirageSIM

Christie's MirageSIM is the ultimate in high performance, high brightness projection for simulation applications. The first purpose-built 3-chip DLP™ simulation projector, the MirageSIM features higher contrast ratios and improved black level so the images you see are authentic, crisp and tangible representations of the source.

With less than a single frame delay between projector input and screen display, the MirageSIM provides sharp, vibrant images without loss of detail, flicker or motion artifacts. Christie's built-in edge-blending allows for multi-channel display with blending on all four sides of the image. External opto-mechanical adjustable blinders offer further blending of black levels for a truly seamless image.

- SXGA resolution (1280x1024) with Dark metal DMDs™
- Built-in edge-blending (Seamless Image Mapping – SIM™)
- 4000 ANSI lumens, SuperCR™ 1000:1 contrast ratio, full field
- 110 VAC operation

Imager

The latest product in Christie's total simulation solutions, Imager enables you to electronically bend projected images onto cylindrical or spherical screen displays for perfectly uniform, seamless displays across any size screen and any shaped surface. The Imager complements Christie's cost-effective, purpose-built simulation projectors for complete commercial off-the-shelf simulation projection.

Through a unique user interface, Imager allows you to edge-blend and adjust the geometric distortion and warping of an image. The Imager applies an advanced digital filter technique to eliminate aliasing effects that can be caused by mapping pixels to a new position. Where two images overlap, a blend region is defined where one projector fades out and another fades in. Using digital techniques, this blend region is almost imperceptible to the observer as the correct proportion from each projector is precisely calculated.

- Enables projection on cylindrical or spherical curved screens with mapping, blending and shading
- Seamless edge-blending
- Operates independently from the projector or image generator source
- Compatible with a wide range of common video formats

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Simulation • Accessories

	Matrix 1500	Matrix 2500	Matrix 3500	MirageSIM
Standard Accessories	• IR Wireless Remote Keypad (with two "AAA" type batteries included) • User Manual • Computer HD15 RGB cable • DVI-D cable • Composite video cable • S-video cable • Audio cable • USB cable • Lens Cover • AC cord (US and European versions) • Soft-sided carrying case • Cable cover for ceiling mount installations	• User Manual • Wireless/Wired remote unit with mouse control and laser pointer (two "AA" type batteries and wired cable included) • User's manual • Computer cable (Dsub15-Dsub15) • MAC/VGA adapter • Mouse control cable (PS/2, Serial and MAC) • DVI cable • DVI/VGA adapter • Dust Cover • AC cord x 2 (UL type and European 2P plug type)	• User Manual • Wireless/Wired remote unit with mouse control and laser pointer (two "AA" type batteries and wired cable included) • Computer cable (Dsub15-Dsub15) • MAC/VGA adapter • Mouse control cable (PS/2, Serial and MAC) • DVI cable • DVI/VGA adapter • Dust Cover • AC cord x 2 (UL type and European 2P plug type)	• IR Wireless Remote (with 4AA batteries) • 8' line cord • User Manual with Warranty Card
Optional Accessories	• Replacement lamp module • Service Manual • Transit case • Optional zoom lens 1.75-2.25:1 • ChristieNET' Networking	• ChristieNET' Networking • Replacement lamp module • Service Manual • Shipping case • Optional Short Fixed 0.8:1 Lens • Optional Short Fixed 1.2:1 Lens • Optional Short Zoom 1.3-1.8:1 Lens • Optional Zoom 2.0-2.6:1 Lens • Optional Zoom 2.6-3.5:1 Lens • Optional Semi Long Zoom 3.5-4.6:1 Lens • Optional Long Zoom 4.6-6.0:1 Lens • Optional Long Fixed 7.0:1 Lens	• ChristieNET' Networking • Replacement lamp module • Service Manual • Shipping case • Optional Short Fixed 0.8:1 Lens • Optional Short Fixed 1.2:1 Lens • Optional Short Zoom 1.3-1.8:1 Lens • Optional Zoom 2.0-2.6:1 Lens • Optional Zoom 2.6-3.5:1 Lens • Optional Semi Long Zoom 3.5-4.6:1 Lens • Optional Long Zoom 4.6-6.0:1 Lens • Optional Long Fixed 7.0:1 Lens • DVI module • 5 BNC module • Y/C module • Dsub-15 module • HD-SDI module • SD-SDI module • Polarization Filters Linear Set (Left & Right) and Circular Set (Left & Right)	• Wired Two-Way remote controller (RS422) with LCD display • Remote IR sensor • Replacement lamp module • Multi-standard video decoder (NTSC 3.58, NTSC 4.43, PAL, PAL 60, PAL M, PAL N, SECAM) • DVI/DFP module • DVI Input module • Digital HDTV module (SMPTE 292) • Vista compatible analog input modules • Compatible with selected 3rd party switchers • Service Manual • Librarian communication software • Arbitrary Gamma Table software • Wired remote backlit keypad • Motorized lens mount upgrade • Serial Digital Input (SMPTE 259M/CCIR 601) • 10-bit ADP (Advanced Digital Processing) • Shipping case

Corporate Offices

USA
10550 Camden Drive
Cypress, CA 90630
PH: 714-236-8610
FX: 714-503-3385
Toll free: (866) 880-4462 (NA only)
sales-us@christiedigital.com

CANADA
809 Wellington Street North
Kitchener, Ontario N2G 4Y7
PH: 519-744-8005
FX: 519-749-3136
Toll free: (800) 265-2171 (NA only)
sales-canada@christiedigital.com

Branch Offices

UNITED KINGDOM
PH: +44 118 977 8000
FX: +44 118 977 8100
sales-europe@christiedigital.com

SINGAPORE
PH: +65 6877-8737
FX: +65 6877-8747
sales-singapore@christiedigital.com

FRANCE
PH: +33 (0) 1 47 48 28 07
FX: +33 (0) 1 47 48 26 06
Mobile: +33 (0) 6 76 47 43 62
sales-france@christiedigital.com

GERMANY
PH: +49 2161 664540
FX: +49 2161 664546
sales-europe@christiedigital.com

CHINA-Shanghai
PH: +86 21 6278 7708
FX: +86 21 6278 7707
sales-china@christiedigital.com

CHINA-Beijing
PH: +86 10 6561 0240
FX: +86 10 6561 0546
sales-china@christiedigital.com

Designed under ISO 9001

PICTURE BY DLP A TEXAS INSTRUMENTS TECHNOLOGY

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Due to constant research, specifications are subject to change without notice.

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